

COMPARISON OF ALTERNATIVES
Concept Development Study for Kingsland Avenue Bridge over the Passaic River
Township of Nutley, Essex County, NJ and Township of Lyndhurst, Bergen County, NJ

Comparison Category/Issue	No Build	Major Rehabilitation	Modified Rehabilitation	Concept 1 Existing Alignment, Fixed Bridge with 10' Vertical Clearance over MHW, 4-Lane Section under Route 21	Concept 2A Existing Alignment, Fixed Bridge with 10' Vertical Clearance over MHW, 5-Lane Section under Route 21	Concept 2B Existing Alignment, Fixed Bridge with 18' Vertical Clearance over MHW	Concept 2C Existing Alignment, Fixed Bridge with 30' Vertical Clearance over MHW	Concept 3A Existing Alignment, 5-Lane Bridge Section (Additional Eastbound Lane)	Concept 3B Existing Alignment, 5-Lane Bridge Section (Additional Westbound Lane)	Concept 3C Existing Alignment, 5-Lane Bridge Section (Additional Westbound Lane), Park EB Left Turn Lane & 2 WB Lanes	Concept 3D Existing Alignment, 5-Lane Bridge Section (Additional Westbound Lane), Park EB Left Turn Lane & 1 WB Lane	Concept 4A Existing Alignment, Movable Bridge with one 65' Waterway Channel	Concept 4B Existing Alignment, Movable Bridge with 100' Waterway Channel	Concept 4C Existing Alignment, Movable Bridge with two 65' Waterway Channels	Concept 5 New Location, Southern Alignment, Fixed Bridge with 9 Vertical Clearance over MHW	Concept 6 New Location, Northern Alignment, Fixed Bridge with 9 Vertical Clearance over MHW (Maintain Existing Bridge)
Meets Project Purpose and Need	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maintenance and Protection of Traffic																
Temporary Bridge Required	N/A	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Number of lanes provided during construction	N/A	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	0 - Detour	1 - Detour	2
Detour Required/Length	None	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	4.0 miles	No
Controlling Substandard Design Elements Remaining																
Lane Cross Slope	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Right Shoulder Width	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Grade	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Crest Vertical Curve	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Sag Vertical Curve	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Vertical Clearance	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Bridge Width	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Construction Duration																
Duration (Years)	N/A	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0
Traffic Operations & Bicycle/Pedestrian																
Improved Level of Service at Park/River Intersection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Improved Level of Service at Park/Route 21 Ramps Intersection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Improved Level of Service at Kingsland/Riverside Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Sidewalks provided with connectivity to approach roadways	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bicycle compatibility provided with connectivity to approach roadways	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Crash Reduction Impacts																
Anticipated Crash Reductions at Park/River intersection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anticipated Crash Reductions at Park/Route 21 Ramps intersection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anticipated Crash Reductions at Kingsland/Riverside intersection	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right of Way Impacts																
Required ROW (in fee - Acres)	0	0	0	0.06	0.06	0.57	2.92	0.08	0.10	0.13	0.11	0.06	0.06	0.06	0.13	0.76
Number of Temporary construction easements	0	2	2	2	2	4	3	2	2	4	3	2	2	2	1	3
Number of partial residential property acquisitions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of entire residential property acquisitions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of partial commercial property acquisitions	0	0	0	2	2	4	3	2	2	4	3	2	2	2	1	2
Number of entire commercial property acquisitions	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	1
Access																
Potential Access Impacts to commercial/residential properties	0	0	0	1	1	5	9	1	1	3	2	1	1	1	2	6
Structural Design																
Bridge approach safety upgraded	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Seismic Design addressed	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mechanical and electrical components upgraded	No	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Yes	Yes	N/A	N/A
Accommodates Commercial & Recreational Users of River	Yes	Yes	Yes									Yes	Yes	Yes		
Environmental Impacts																
Floodplain (acres)	0	0.04	0.04	0.14	0.14	0.14	0.18	0.14	0.14	0.14	0.14	0.22	0.22	0.19	0.14	0.18
Riparian Zone (acres)	0	0	0	0.06	0.06	0.09	0.08	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Total Wetland and State Open Water Permanent Impacts (acres)	0	0.04	0.04	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.16	0.16	0.13	0.08	0.12
Historic Resources (# of sites)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hazardous Waste/Contaminated Sites	0	1	1	2	2	3	3	2	2	2	2	2	2	2	2	3
Threatened and Endangered Species Habitat	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Total Construction Cost (2024)	N/A	\$28,000,000	\$24,500,000	\$26,690,000	\$26,825,000	\$85,005,000	\$149,180,000	\$32,650,000	\$32,655,000	\$32,915,000	\$32,900,000	\$56,435,000	\$71,525,000	\$87,970,000	\$27,035,000	\$96,930,000
Utility Relocation Cost	N/A	\$0	\$0	\$10,000	\$10,000	\$1,500,000	\$3,000,000	\$30,000	\$10,000	\$80,000	\$75,000	\$10,000	\$10,000	\$10,000	\$40,000	\$60,000
Right of Way and/or Acquisition Cost	N/A	\$15,000	\$15,000	\$80,000	\$80,000	\$1,760,000	\$7,170,000	\$120,000	\$140,000	\$190,000	\$160,000	\$80,000	\$80,000	\$80,000	\$140,000	\$1,920,000
Total Cost (Construction + Utility + ROW)	N/A	\$28,015,000	\$24,515,000	\$26,780,000	\$26,915,000	\$88,265,000	\$159,350,000	\$32,800,000	\$32,805,000	\$33,185,000	\$33,135,000	\$56,525,000	\$71,615,000	\$88,060,000	\$27,215,000	\$98,910,000
Annual Maintenance and Operations Cost*	N/A	\$300,000	\$300,000	\$25,000	\$25,000	\$25,000	\$50,000	\$25,000	\$25,000	\$25,000	\$25,000	\$150,000	\$150,000	\$150,000	\$25,000	\$175,000
Life Cycle Cost (Present Value - 75 yr period)*	N/A	\$109,150,000	\$105,650,000	\$27,950,000	\$27,950,000	\$39,100,000	\$74,100,000	\$27,950,000	\$27,950,000	\$27,950,000	\$27,950,000	\$73,150,000	\$88,450,000	\$117,350,000	\$27,950,000	\$27,950,000

*Costs represent Kingsland Ave Bridge only and not other bridge and/or roadway items